

Roll-Out De-Orbiting Device, Phase I

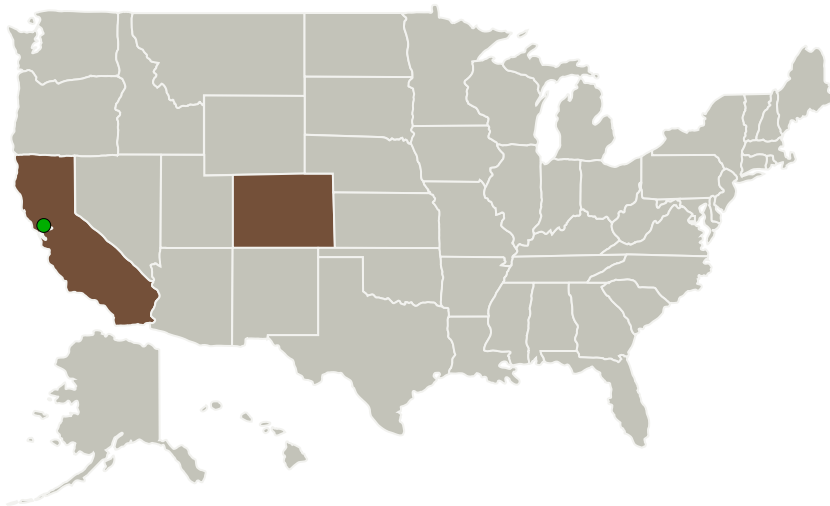
Completed Technology Project (2011 - 2011)



Project Introduction

NASA intends to place small spacecraft (<100kg) and very small spacecraft (<15kg) into a variety of orbits. Methods and technologies are needed to intentionally de-orbit these spacecraft at end of mission, or upon loss of control and function. CTD has developed a family of highly mass efficient Roll-Out De-Orbiting devices (RODEO). RODEO provides a dramatic increase in the deployed surface area, resulting in higher aerodynamic drag and significantly reduced time until satellite re-entry. RODEO's composite booms self-deploy with no external spacecraft power, and the inherent simplicity of RODEO results in extremely low costs, low mass, and low power.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Composite Technology Development, Inc.	Lead Organization	Industry	Lafayette, Colorado
● Ames Research Center(ARC)	Supporting Organization	NASA Center	Moffett Field, California



Roll-Out De-Orbiting Device, Phase I

Table of Contents

Project Introduction	1
Primary U.S. Work Locations and Key Partners	1
Project Transitions	2
Organizational Responsibility	2
Project Management	2
Technology Maturity (TRL)	3
Technology Areas	3
Target Destinations	3

Roll-Out De-Orbiting Device, Phase I

Completed Technology Project (2011 - 2011)



Primary U.S. Work Locations

California

Colorado

Project Transitions



February 2011: Project Start



September 2011: Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/138474>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Composite Technology Development, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Robert M Taylor

Co-Investigator:

Robert F Taylor

Roll-Out De-Orbiting Device, Phase I

Completed Technology Project (2011 - 2011)



Technology Maturity (TRL)

Start: **2**
Current: **4**
Estimated End: **4**



Technology Areas

Primary:

- TX09 Entry, Descent, and Landing
 - └ TX09.1 Aeroassist and Atmospheric Entry
 - └ TX09.1.3 Passive Reentry Systems for SmallSats

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System